

CLAIMS

1. A level measuring device having a transceiver unit comprising:
a transmitter (1) for generating a signal,
an acquisition antenna (5) for emitting the signal into an acquisition volume (8)
and for picking up an effective echo signal reflected by the acquisition volume (8), as
well as
a receiver (2) for evaluating an echo signal supplied by the acquisition antenna
(5), said signal being composed of the effective echo signal and an unwanted echo signal
generated by the acquisition antenna,
wherein:
an antenna simulation (6) is connected via one or more couplers (3, 4, 19)
to the transmitter (1) and the receiver (2), which, upon receiving the signal, provides a
correction signal proportional to the unwanted echo signal, and
the one or more couplers heterodyne the correction signal and the echo
signal whereby the correction signal and the unwanted echo signal cancel out each other.
2. A level measuring device having a transceiver unit, as defined in claim 1,
wherein the antenna simulation is a second antenna and is so placed that said second
antenna emits into an absorber.
3. A level measuring device having a transceiver unit, as defined in claim 2,
wherein the antenna simulation is similar in design to the acquisition antenna.
4. A level measuring device having a transceiver unit, as defined in claim 1,
wherein the antenna simulation is a network of complex impedances.
5. A level measuring device having a transceiver unit, as defined in claim 1,
wherein said transceiver unit comprises a power splitter that distributes the signals with
respective equal power to the acquisition antenna and the antenna simulation.

6. A level measuring device having a transceiver unit, as defined in Claim 2, wherein said transceiver unit comprises a power splitter for distributing the signal to the acquisition antenna and the antenna simulation, and which feeds a smaller part of the power of the signal to the antenna simulation than to the acquisition antenna, and the antenna simulation has a higher reflectivity than the acquisition antenna.

7. A level measuring device having a transceiver unit, as defined in claim 1, wherein said transceiver unit supplies the correction signal in a 180° phase displacement to the unwanted echo signal.

8. A level measuring device having a transceiver unit, as defined in claim 1, wherein the echo signal is a radio signal and wherein between the acquisition antenna and the coupler or between the antenna simulation and the coupler, respectively, a mixer is placed for converting the echo signal or correction signal to an intermediate frequency.

9. A level measuring device having a transceiver unit, as defined in claim 1, wherein the coupler comprises a wave guide ring with four connections, which respectively are connected through corresponding wave guide sections the lengths of which respectively correspond to one-quarter of the wavelength of the sampled signal, wherein:

the acquisition antenna and the antenna simulation are connected to adjacent ones of said connections, and

the transmitter and receiver jointly are connected to another of said connections adjacent to the connection of the acquisition antenna or the antenna simulation.